# Greek Manuscripts at Dumbarton Oaks: Codicological and Paleographic Description and Analysis 

Nadezhda Kavrus-Hoffmann

The Dumbarton Oaks collection of Greek manuscripts consists of three codices and two fragments: codex 1, a lectionary; codex 3, a psalter, odes, and New Testament; codex 4, the Gospels of Luke and John; codex acc. no. 79.31, a fragment-two leavesfrom a lectionary; and codex acc. no. 58.105, a fragment-one leaf-from the Gospel of John. The codices and fragments are among the best examples of the Byzantine art of book illumination and have been closely studied by art historians, ${ }^{1}$ but detailed codicological and paleographic descriptions and analyses of these manuscripts do not exist. It is the purpose of my article to fill this gap and to provide new materials for further research. ${ }^{2}$

## Codex 1: A Lectionary

This manuscript, Dumbarton Oaks MS 1, consists of 149 parchment folios measuring $326 \times 248 \mathrm{~mm}$. The well-made parchment is of good but not excellent quality and is medium thick and slightly warped. The flesh side is a creamish white, and the hair side is yellowish. Occasional traces of hair are visible. The condition of the parchment indicates that the lectionary was often used in services. The text occupies an area of $240 \times$ $170-180 \mathrm{~mm}$, there are twenty-four lines of text per page, and the space between the ruled lines is 10 to 11 mm . The manuscript was written by one scribe.

The codex consists of twenty-two quires composed according to Gregory's rule—flesh

[^0]side + flesh side, hair side + hair side. The quire signatures are at the lower right corner of the first recto and at the lower right corner of the last verso of each gathering. The gathering numbers are not original and were written by a later hand in a dark-brown ink different from the lighter ink of the text. There is another set of signatures on the last verso of some gatherings written in beige ink with a thin pen. They are located at the lower margins, approximately in the middle of the second column, and also are not original. This assertion is based on the fact that the original text was written in liturgical minuscule, which I believe can be attributed to the eleventh century, while the signatures, for example uncial beta on folio 15v, were written in the Fettaugen-Mode style of the thirteenth-fourteenth centuries. ${ }^{3}$

Description of the Quires

| Numbers | Folios | Description |
| :---: | :--- | :--- |
| 1 | $1 \mathrm{r}-7 \mathrm{v}$ | Seven folios |
| 2 | $8 \mathrm{r}-15 \mathrm{v}$ | Quaternion |
| 3 | $16 \mathrm{r}-22 \mathrm{v}$ | Seven folios |
| 4 | $23 \mathrm{r}-28 \mathrm{v}$ | Six folios |
| 5 | $29 \mathrm{r}-36 \mathrm{v}$ | Quaternion |
| 6 | $37 \mathrm{r}-42 \mathrm{v}$ | Ternion |
| 7 | $43 \mathrm{r}-48 \mathrm{v}$ | Six folios; the beginning |
|  |  | of the cruciform text |
| 8 | $49 \mathrm{r}-56 \mathrm{v}$ | Quaternion |
| 9 | $57 \mathrm{r}-64 \mathrm{v}$ | Quaternion |
| 10 | $65 \mathrm{r}-69 \mathrm{v}$ | Five folios |
| 11 | $70 \mathrm{r}-77 \mathrm{v}$ | Quaternion |
| 12 | $78 \mathrm{r}-85 \mathrm{v}$ | Quaternion |
| 13 | $86 \mathrm{r}-93 \mathrm{v}$ | Quaternion |
| 14 | $94 \mathrm{r}-99 \mathrm{v}$ | Six folios |
| 15 | $100 \mathrm{r}-104 \mathrm{v}$ | Five folios |
| 16 | $105 \mathrm{r}-112 \mathrm{v}$ | Quaternion |
| 17 | $113 \mathrm{r}-118 \mathrm{v}$ | Ternion |
| 18 | $119 \mathrm{r}-126 \mathrm{v}$ | Quaternion |
| 19 | $127 \mathrm{r}-131 \mathrm{v}$ | Five folios |
| 20 | $132 \mathrm{r}-139 \mathrm{v}$ | Quaternion |
| 21 | $140 \mathrm{r}-147 \mathrm{v}$ | Quaternion |
| 22 | $148 \mathrm{r}-149 \mathrm{v}$ | Two folios |

[^1]All quaternions were ruled according to ruling system 1 of J. Leroy's code-i.e., each bifolio of the quire was ruled separately on the hair side. ${ }^{4}$ Folios 1 r through 42 v were written in two columns with the ruling pattern K 44C2, Leroy's formula (Fig. 1). ${ }^{5}$ Beginning with folio 43 r the pages were ruled in a special manner to allow for cruciform text. The particular feature of such ruling patterns is single or double verticals delimiting the cruciform shape of the text. Because Leroy did not describe the ruling patterns of manuscripts written in the shape of a cross, I suggest using indices Cr 1 (for single verticals) and Cr 2 (for double verticals), after the main formula. Thus, the ruling pattern of Dumbarton Oaks MS 1 folios $44 \mathrm{r}-47 \mathrm{v}$, $49 \mathrm{r}-85 \mathrm{v}, 94 \mathrm{r}-131 \mathrm{v}$, and $133 \mathrm{r}-149 \mathrm{v}$ may be described as 34C1 Cr 2 (Fig. 2). Folios 86r through 93v (the thirteenth quire) and folios $43 \mathrm{r}-\mathrm{v}$ and $48 \mathrm{r}-\mathrm{v}$ have the ruling pattern 34 C 2 . The scribe added four short double verticals to adjust the conventional ruling pattern to the cruciform text (Fig. 3). Since this ruling pattern differs from the one at the beginning of the manuscript, these folios probably were prepared for a different manuscript. Folio 132 has a unique ruling pattern (Fig. 4). The scribe did not carefully rule the sheets of parchment: lines are not always strictly parallel, and horizontal lines guiding the writing often exceed the limiting vertical. The small punctures have a cruciform shape and probably were made by a sharp knife. ${ }^{6}$

The manuscript's writing is pendant from the ruled lines. Folios 1 r through 8 r and the first seven and a half lines on folio 8 v were written with a thick pen in carmine ink dusted with gold powder; folios 8 v through 41 r and the first ten lines of the left column on folio 41v were written in carmine ink; the rest of the text was written in mediumbrown and in light-brown ink. Table 1 displays the codicological data of Dumbarton Oaks MS 1.

Table 1

| Size of the manuscript | $326 \times 248 \mathrm{~mm}$ |
| :--- | :--- |
| Ruling system (Leroy) | 1 |
| Main ruling patterns (Leroy) | $\mathrm{K} 44 \mathrm{C} 2 ; 34 \mathrm{Cl} \mathrm{Cr} 2$ |
| Lines per page | 24 |
| Area ruled for text | $240 \times 170-180 \mathrm{~mm}$ |
| Space between ruled lines <br> guiding the writing | $10-11 \mathrm{~mm}$ |
| Position of the script in <br> relation to ruled lines | pendant |

The codicological peculiarities of the Dumbarton Oaks lectionary provide evidence of a Constantinopolitan, rather than provincial, origin of the manuscript. The size of the manuscript, the interrelated dimensions of the page and of the area ruled for text-the

[^2]length of the latter is approximately the same as the width of the former-the use of ruling system 1, and the wide space between ruled lines are common in many Constantinopolitan manuscripts of the eleventh century. ${ }^{7}$ Ruling pattern 44C2 and its one-column version, 44C1, were especially popular in manuscripts produced in the capital at the end of the tenth century and throughout the eleventh century-e.g., codices Moscow, Rus. Hist. Mus. 3644 (a.d. 999); Rus. Hist. Mus. Vlad. 13; St. Petersburg, Rus. Nat. Libr. gr. $67 .{ }^{8}$ Index K is very common in the ruling patterns of Constantinopolitan manuscripts written in two columns. ${ }^{9}$ Several manuscripts written in the second half of the eleventh century have a ruling pattern identical to the K 44 C 2 of the Dumbarton Oaks manuscript—Athos, Lavra $\Delta 46$; Moscow, Rus. Hist. Mus. Vlad. 382 (A.D. 1063); Paris. gr. 1511, and Sinait. gr. 500. These manuscripts contain the Metaphrastian Menologium and were written by the same scribe, whose name is unknown. ${ }^{10}$ Art historians unanimously attribute these manuscripts to a Constantinopolitan scriptorium. ${ }^{11}$ The identical ruling pattern alone, however, is not enough to attribute the Dumbarton Oaks manuscript to the scriptorium where the Metaphrastian codices were produced, but it is important to note that ruling pattern K 44 C 2 was used in the capital region but appears infrequently in Greek manuscripts in general-only in eighteen of three thousand manuscripts, according to Leroy. ${ }^{12}$ Notwithstanding the indisputable importance of codicological data for attributing Greek manuscripts to a particular group or scriptorium, these data alone cannot be the determinant factor and must be supported with paleographic and artistic evidence.

Dumbarton Oaks MS 1 was written in liturgical minuscule (Pls. 1 and 2). Emerging in the eleventh century, liturgical minuscule marks a new period in Byzantine book pro-duction-the transition in the script of liturgical books, especially lectionaries, which, as is well known, were written in uncial script almost until the middle of the eleventh century. This writing style, derived from Perlschrift, ${ }^{13}$ has its own distinct features: the script is more vertical and static than Perlschrift, the strokes of the letters are reduced, and some letters are enlarged (e.g., uncial epsilon, zeta, theta, kappa, lambda, phi, and omega). There are fewer connections between letters in comparison to Perlschrift; for example, the narrow uncial epsilon and iota may be written separately instead of the ligature common in Perlschrift, and rho may not be connected with any following vowels. It seems that the eleventh-century scribes "revived" some features of the writing style

[^3]
## 

以 OOKETE वirio ; Óन
 E $\mu$ чípGart oukd


 Kasokóowo

 थf, íनi\&00zos;


 .rifoó évrô wpipo
 Kqoo ér qrértó ó
 uouleaírnpoopaí rá̃ EKEi pooblir

 $\theta$ ќotra : wро́ rout l'áव́वó, qjarmatonairos s
e uparíomo.......... EL Havroryt ax


 : $\Phi$ tof +10 aivro


 ภुZニ́OROET L Lartiono Édboleao aircos b̀ \& ovó ar waoro oopkoo if as ronéy óds do líao aircó, dó $\sigma$ е 2 airroiö
 Trdfádir Maión! ©

 өiportyु;leas $\mu \alpha$


 *Gerteimous óódédo

## Ǩ̌

## 


 xog wop akapópaitop kaifé






 iartriobron woi opoutkan vé iviáy
 каi $\lambda$ qै0 Toú
 ноои той






тиi arepor dчe leariooudk kol

$$
\vec{i} \text { वкм }
$$



3 Dumbarton Oaks MS 3, fol. 202r

4, 2,




























 «̀р







4 Dumbarton Oaks MS 3, fol. 351r


5 Dumbarton Oaks MS 4, fol. Sr

 tith



 ○́
 Guritiodoo kaincerpó ofrour roí ciretikतám. TOUáptov tau tou siá







7 Dumbarton Oaks, fragment, acc. no. 79.31, fol. Rr

 Einot óvxikà oirtsporyan oü उOO O HIOLONOR

 －－वा户 чuajp 6 －Tois aunci o ré




 Lofo fी Noeke os ＂Gpaintoi．＂Iquाtpo －Dosm rou－coéos HovTrütuoupa
 apнкंबhन 6 ＂Gurce enotor mis 9－क OTsogur curomza Vas：＂Envorepotis
－Toúrovérnuty



 Kaí ò \＄：सấpisois Mfurroais
 at focy aŕsioo．
 p बFon crovairsou Katax Kov－9 Ei

K＇dx pen uáziov．
 सदीp 0 Eirarby aincn．KE．iboy Lireqの í likaus－y

入overúcas eispor．

 xiscoir．ajehiuf－ós
 भégo dis onov Qincan it bopme．
of the first half and middle of the tenth century-minuscule bouletée. ${ }^{14}$ I agree with an observation made by M. L. Agati that bouletée expressed "the solemnity of uncial script in minuscule form." ${ }^{15}$ We can see the same kind of "solemnity" in liturgical minuscule, which is, to some extent, the archaizing script. My study of liturgical minuscule has led me to the conclusion that this writing style may be divided into four closely interrelated but distinct subgroups:

1. Large, rounded liturgical minuscule, used for especially luxurious liturgical manuscripts, such as Moscow, Rus. Hist. Mus. Syn. gr. 511, and Athos, Chilandari 105, which were both written entirely in gold and, very probably, by the same scribe, and the closely related codex Athos, Dionysiou 587m. ${ }^{16}$
2. Medium-sized "squat" liturgical minuscule, used for less luxurious liturgical books. I attribute the Dumbarton Oaks lectionary and closely related manuscripts to this subgroup. The script gives an impression of squareness, or even squatness, because the width of many letters exceeds their height, and the strokes of letters are visibly reduced. Medium-sized squat liturgical minuscule was especially suitable for lectionaries, because it left enough space between lines for ekphonetic notation.
3. Small-sized "pearl" liturgical minuscule, used mostly for New Testament manuscripts, such as Moscow State Univ. Libr. cod. 2280 (A.D. 1072) and Dumbarton Oaks MS 3 (ca. 1084). This script is very close to Perlschrift, but with archaizing elements reminding one of the small-sized bouletée of codices Moscow, Rus. Hist. Mus. Vlad. 159 and St. Petersburg, Rus. Nat. Libr. gr. $220 .{ }^{17}$
4. Liturgical minuscule with prolonged strokes, used in Athens, Nat. Libr. cod. 57; ${ }^{18}$ Harvard Univ. Libr. cod. 3 (A.D. 1105); ${ }^{19}$ Moscow, Rus. Hist. Mus. Vlad. 12 and 13;20 New York, Pierpont Morgan Libr. M 639;21 Oxford, Bodl. Libr.

[^4]cod. Barocci 15 (A.d. 1105);22 and St. Petersburg, Rus. Nat. Libr. gr. 214 (ca. 1080). ${ }^{23}$

The handwriting of the Dumbarton Oaks MS 1 scribe displays all the features of liturgical minuscule: the script is almost upright; the strokes of many letters are reduced (e.g., minuscule gamma, kappa, mu, nu, rho); some letters are enlarged (e.g., zeta, the closed form of theta, the uncial lambda, phi, the open form of omega); the ligature epsilon-iota is often replaced with a narrow uncial epsilon and an iota written separately; and rho is not always connected with a following vowel. The scribe demonstrated his professionalism: When he changed the form of the text to cruciform, he also changed the character of the script. Rather than the large script on folios 1r through 43v, for the cruciform text the script used is smaller and more compact: the scribe wrote 13 to 14 letters in a 80 mm space (the width of one column) in the beginning of the manuscript, and he wrote 16 to 18 letters in the same space of the cruciform text (compare Pls. 1 and 2). Perhaps the cruciform shape of the text would have used more of the expensive parchment than the scribe and the commissioner had agreed to, so the scribe of the Dumbarton Oaks lectionary switched from the large rounded liturgical minuscule to the medium-sized script. Such changes occur, though rarely, in other Greek manuscripts, for example, in the codex of Dioscorides from the Pierpont Morgan Library, M 652, written in bouletée in the beginning of the tenth century, probably in Constantinople. ${ }^{24}$

In the catalogue of an exhibition of illuminated Greek manuscripts, from American collections Dumbarton Oaks MS 1 was attributed by J. Anderson to the second half of the eleventh century. ${ }^{25}$ Anderson later reattributed the lectionary to the twelfth century. ${ }^{26}$ Paleographically, the attribution of Dumbarton Oaks MS 1 to the second half of the eleventh century seems more probable for two reasons. First, the vast majority of dated manuscripts in liturgical minuscule were written in the second half of the eleventh century. Only a few manuscripts, such as Harvard Univ. Libr. cod. 3 and Oxford, Bodl. Libr. cod. Barocci 15 , were written at the very beginning of the twelfth century (A.D. 1105), when the writing style had not changed significantly from that of the eleventh century. But certain features of the twelfth-century style did appear soon after these manuscripts were written: the script becomes more rigid and loses its evenness; some letters become disproportionately enlarged (especially the open form of omega and the uncial forms of epsilon, kappa, and lambda); and the strokes of many letters extend (such as iota, tall tau, chi, and the diagonals of uncial alpha, delta, and lambda). The ligature tau-omicron, with omicron made by a loop from the right part of the horizontal stroke of tau ( $\boldsymbol{\bullet}$ ), was

[^5]common in the eleventh century, but becomes rare in the twelfth. ${ }^{27}$ The tachygraphic abbreviation of k $\alpha i$ occurs more frequently in a form that curves to the left and upward $(\stackrel{\sim}{)}$, instead of the form of " S " common in the ninth through eleventh centuries. These and other paleographic features are found in a well-known example of a twelfth-century script-the codex Sinait. gr. 339, written and illuminated in Constantinople around the middle of the century. ${ }^{28}$ I do not find any twelfth-century features in the script of the Dumbarton Oaks lectionary.

The second reason for attributing Dumbarton Oaks MS 1 to the second half of the eleventh century is that among manuscripts written in liturgical minuscule, there are several codices closely related in script to this lectionary, and all are dated or attributed to the second half of the eleventh century. ${ }^{29}$ These manuscripts are Athens, Nat. Libr. cod. 179 (A.d. 1048); ${ }^{30}$ Sinait. gr. 512 (ca. 1055-56); ${ }^{31}$ Athens, Nat. Libr. codd. 63, ${ }^{32}$ 174, ${ }^{33}$ 182, ${ }^{34}$ 190, ${ }^{35}$ 2363, ${ }^{36} 2645,{ }^{37} 2676,{ }^{38}$ 2804; ${ }^{39}$ Athos, Esphigmenou cod. $19 ;{ }^{40}$ Athos, Lavra cod. A 113;41 and Jerusalem, cod. Sinait. 205.42 All these manuscripts were written with the same kind of script-a medium-sized squat liturgical minuscule.

It is especially important to compare the Dumbarton Oaks lectionary with other cruciform manuscripts: Athos, Iveron, unnumbered manuscript; London, Brit. Mus. Add. 39603; and New York, Pierpont Morgan Libr. M 692. J. Anderson, in his monograph on New York lectionary M 692, analyzed other cruciform lectionaries and concluded that the four cruciform manuscripts studied-which included the Dumbarton Oaks lection-ary-have a certain similarity in their illumination and were produced during the twelfth
${ }^{27}$ Leroy, "Copiste de ménologes métaphrastiques," 128-29.
${ }^{28}$ J. C. Anderson, "The Illustration of Cod. Sinai. Gr. 339," ArtB 61 (1979), 167-85; Weitzmann and Galavaris, Mount Sinai, 140-53 and pls. CXLV-CLXII. C. Mango has offered a more precise date for Sinait. gr. 339-A.D. 1142 -the year of the consecration of the church at St. Glykeria monastery after the refoundation of the monastery. The manuscript, in Mango's view, could have been made and donated to the monastery by Joseph for this occasion: C. Mango, "Twelfth-Century Notices from Cod. Christ Church Gr. 53," JÖB 42 (1992), 221-28.
${ }^{29}$ Unfortunately the handwriting of the anonymous scribe of the Metaphrastian Menologium-codd. Athos, Lavra, $\Delta 46$; Moscow, Rus. Hist. Mus. Vlad. 382; and other manuscripts with a ruling pattern identical to the Dumbarton Oaks MS 1-is unique and cannot help us establish a more precise date and origin of the Dumbarton Oaks lectionary.
${ }^{30}$ Marava-Chatzinicolaou and Toufexi-Paschou, Catalogue, I, 82, pls. 143-50.
${ }^{31}$ D. Harlfinger et al., Specimina Sinaitica: Die datierten griechischen Handschriften des Katharinen-Klosters auf dem Berge Sinai. 9.-12. Jahrhundert (Berlin, 1983), pls. 64 and 65.
${ }^{32}$ Marava-Chatzinicolaou and Toufexi-Paschou, Catalogue, I, pls. 155-58.
${ }^{33}$ Ibid., pls. 183-86.
${ }^{34}$ Ibid., pls. 232-35.
${ }^{35}$ Ibid., pls. 350-75.
${ }^{36}$ Ibid., pls. 325-47.
${ }^{37}$ Ibid., pls. 314-22.
${ }^{38}$ Ibid., pl. 388.
${ }^{39}$ Ibid., pls. 171-80.
${ }^{40}$ Pelekanidis et al., Treasures, II, pls. 413-15.
${ }^{41}$ Ibid., III, pls. 56 and 57; Spatharakis, Corpus, pl. 610. Pelekanidis attributes cod. A 113 to the 14 th century. I support the point of view of Spatharakis, who suggests the second half of the 11th to the beginning of the 12 th century as a probable date for this manuscript.
${ }^{42}$ K. Weitzmann, Illuminated Manuscripts at St. Catharine's Monastery on Mount Sinai (Collegeville, Minn., 1973), figs. 16 and 17; Weitzmann and Galavaris, Mount Sinai, pls. CI-CV.
century in Constantinople. ${ }^{43}$ In my opinion, the four cruciform manuscripts are also closely related to each other in script and were written with the same kind of mediumsized squat liturgical minuscule.

Notwithstanding individual differences in handwritings, the scribes of the manuscripts written in medium-sized squat liturgical minuscule are representatives of the same calligraphic tradition. We do not have sufficient evidence to confirm that these codices were made in the same scriptorium, but they almost surely were produced in the same region and in the same period. Since several dated manuscripts written in this kind of minuscule were made around the middle and second half of the eleventh century, Dumbarton Oaks MS 1 and other lectionaries written in the same script can be attributed to the second half of the eleventh century. ${ }^{44}$

Many codices written in liturgical minuscule contain direct or indirect evidence that they were made in Constantinople—Moscow, Rus. Hist. Mus. Syn. gr. 511; Moscow State Univ. Libr. 2280; St. Petersburg, Rus. Nat. Libr. gr. 214. It is important also to note that later entries in cruciform lectionaries London, Brit. Mus. Add. 39603 and New York, Pierpont Morgan Libr. M 692-manuscripts closely related to the Dumbarton Oaks lec-tionary-point to probable Constantinopolitan origins (see note 26).

Thus, all peculiarities of Dumbarton Oaks MS 1—codicological, paleographic, and artistic-indicate Constantinople as the likely place of its origin. Although this manuscript is not one of the finest examples of eleventh-century book production in the capital, it is a rare and valuable cruciform lectionary. It is unique because its obviously rich patron ordered the entire book to be written in carmine ink dusted with golden powder, but, later, for some reason, he changed his mind and switched the shape of the text to cruciform. ${ }^{45}$ Both chrysography and cruciform text were expensive luxuries in Byzantium. Unfortunately the Dumbarton Oaks lectionary does not have a colophon, and we shall probably never know who the commissioner was or the destination of this unusual eleventh-century manuscript.

## Codex 3: Psalter, Odes, and New Testament

The date of this manuscript, ca. 1084, can be established from its Easter tables, which run from A.D. 1084 until A.D. $1101 .{ }^{46}$ The codex consists of 354 folios numbered 1 through 362; the number 211 has been omitted by mistake, and seven folios are missing. We do not know the original number of folios, because the end of the New Testament was probably lost and restored in the fifteenth century on paper. Folios $1 r$ through 340 v are written on parchment measuring $162 \times 103-109 \mathrm{~mm}$. The parchment is of fine quality and

[^6]carefully prepared. It is thin, smooth, and white, and the hair side is slightly yellowish. Several pages from gathering 31 (folios 224 r through 231v) are of lower quality and have traces of hair. Folios 341 r through 362 v are written on paper. (The paper part of the manuscript will be analyzed later.) The text occupies an area measuring $120 \times 70 \mathrm{~mm}$, and there are thirty-six lines per page. The space between ruled lines is 3.5 mm .

The parchment folios were written by one scribe. There are forty-eight quires in the manuscript, composed according to Gregory's rule. The quire signatures are not original and were written by a later hand in reddish-brown ink, different from the mediumbrown ink of the text. The letter forms of some signatures also indicate their later ori-gin-for example, the use of the so-called modern kappa ( $\mathcal{X}$ ), which, according to P . Canart and L. Perria, appeared only in the twelfth century, and began to be used regularly after A.D. 1180). ${ }^{47}$ The signatures are located in the middle of the bottom margin of the first recto and the last verso of the quires, and they only run through the parchment part of the manuscript-i.e., the quires were numbered before the codex was restored.

Description of the Quires

| Numbers | Folios | Description |
| :---: | :---: | :---: |
| 1 | $1 \mathrm{r}-6 \mathrm{v}$ | Five folios. Folio $1 \mathrm{r}-\mathrm{v}$ is blank. <br> Folio 4 is missing. |
| 2 | 7r-14v | Quaternion |
| 3 | $15 \mathrm{r}-22 \mathrm{v}$ | Quaternion. The numbering of the Psalms reveals a mistake made by a book binder: folio 21 should be the first folio of the quire. |
| 4 | 23r-30v | Quaternion |
| 5 | 31r-38v | Quaternion |
| 6 | $\begin{aligned} & 39 \mathrm{r}-\mathrm{v} \text { and } \\ & 40 \mathrm{r}-47 \mathrm{v} \end{aligned}$ | Quaternion. Folio 39, with a miniature, was added to the quaternion. |
| 7 | 48r-55v | Quaternion |
| 8 | 56r-63v | Quaternion |
| 9 | $64 \mathrm{r}-71 \mathrm{v}$ | Quaternion |
| 10 | $\begin{aligned} & 72 \mathrm{r}-\mathrm{v} \text { and } \\ & 73 \mathrm{r}-80 \mathrm{v} \end{aligned}$ | The quire was originally a quaternion. Folio 78 is missing and is now in the Benaki Museum in Athens. Folio 72, with a |

[^7]|  | miniature, was added to <br> the quaternion. |
| :--- | :--- |
| $11881 \mathrm{r}-85 \mathrm{v}$ | Five folios |

Folios 86 and 87 , with portraits of the donors, were inserted in the manuscript later, sometime after the middle of the fifteenth century (according to S. Der Nersessian) ${ }^{48}$ or in the early sixteenth century (according to A. Cutler). ${ }^{49}$

| 12 | 88r-93v | Ternion |
| :---: | :---: | :---: |
| 13 | 94r-103v | Quinion |
| 14 | 104r-113v | Quinion |
| 15 | 114r-123v | Quinion |
| 16 | 124r-127v | Binion |
| 17 | 128r-135v | Quaternion |
| 18 | 136r-143v | Quaternion |
| 19 | 144r-149v | Ternion |
| 20 | 150r-151v | Union |
| 21 | 152r-161v | Quinion |
| 22 | 162r-171v | Quinion |
| 23 | 172r-181v | Quinion |
| 24 | 182r-186v | Five folios |
| 25 | $\begin{aligned} & 187 \mathrm{r}-\mathrm{v}- \\ & 187 \text { bis r-v } \end{aligned}$ | This quire is missing. The whereabouts of folio 187 is unknown. Folio 187 bis is now in Moscow Tretjakov Gallery (no. 2580). ${ }^{50}$ It is the last folio of the quire, with the signature on its verso. |
| 26 | 188r-195v | Quaternion |
| 27 | 196r-203v | Quaternion |
| 28 | 204r-212v | Quaternion |
| 29 | 213r-215v | Three folios |
| 30 | 216r-223v | Quaternion |
| 31 | 224r-231v | Quaternion |
| 32 | 232r-239v | Quaternion |
| 33 | 240r-247v | Quaternion |
| 34 | 248r-255v | This quire was originally a quaternion. Folio 254 is missing and is now in the |

[^8]|  |  | Cleveland Museum of Art (acc. no. 50.154). |
| :---: | :---: | :---: |
| 35 | 256r-263v | Quaternion |
| 36 | 264r-271v | Quaternion |
| 37 | 272r-279v | Quaternion |
| 38 | 280r-287v | Quaternion |
| 39 | 288r-295v | Quaternion |
| 40 | 296r-303v | Quaternion. Gathering number 40 (mu) was erroneously written on folio 304v instead of on folio 303v. |
| 41 | 304r-311v | Quaternion. Gathering number 41 (mu-alpha) was erroneously written of folio 305 r instead of on folio 304r. |
| 42 | 312r-319v | Quaternion |
| 43 | 320r-327v | Quaternion |
| 44 | $328 \mathrm{r}-335 \mathrm{v}$ | Quaternion |
| 45 | $336 \mathrm{r}-340 \mathrm{v}$ | Five folios |
| 46 | $341 \mathrm{r}-346 \mathrm{v}$ | Ternion (the beginning of the paper folios) |
| 47 | $347 \mathrm{r}-352 \mathrm{v}$ | Ternion |
| 48 | $353 \mathrm{r}-358 \mathrm{v}$ | Ternion |
| 49 | $349 \mathrm{r}-362 \mathrm{v}$ | Binion. Folios 361r-362v are blank. |

All parchment quires were ruled according to system 1, with the ruling pattern 12 C 1 (Fig. 5). Folios 2 and 3 (with the table of contents) have a two-column version of the main ruling pattern, 12C2 (Fig. 6); folios 5, 6, 128, and 150 (with miniatures) have 13C1d (Fig. 7); and folio 214 has 32C1 (Fig. 8).

The script is pendant from ruled lines. The ink is medium brown and light brown. Folios $77 \mathrm{v}, 82 \mathrm{r}, 85 \mathrm{r}, 214 \mathrm{v}, 253 \mathrm{v}$, and 266 r are written in the shape of a cross. The scribe adjusted the ruling patterns, 12C1 and 32C1, to the cruciform text by adding four short verticals delimiting the narrow part of the text. Table 2 displays the codicological data of Dumbarton Oaks MS 3.

Table 2

| Size of the manuscript | $162 \times 103-109 \mathrm{~mm}$ |
| :--- | :--- |
| Ruling system (Leroy) | 1 |
| Ruling patterns (Leroy) | 12C1 (main pattern); 12C2; |
|  | $13 \mathrm{C} 1 \mathrm{~d} ; 32 \mathrm{C} 1$ |
| Lines per page | 36 |


| Area ruled for text | $120 \times 70 \mathrm{~mm}$ |
| :--- | :--- |
| Space between ruled lines <br> guiding the writing | 3.5 mm |
| Position of the script in <br> relation to ruled lines | pendant |

The codicological features of Dumbarton Oaks MS 3 link this codex to a number of manuscripts of the second half of the eleventh century, the Constantinopolitan origins of which are well established. For instance, the size and area ruled for the text of the manuscript are almost identical to the famous St. Petersburg Psalter Rus. Nat. Libr. gr. 214, which was written for the imperial family around a.D. 1080.51 The measurements of Dumbarton Oaks MS 3 correlate to the dimensions of smaller-sized Constantinopolitan codices $^{52}$ such as Moscow State Univ. Libr. cod. $2280^{53}$ and Vindob. Theol. gr. 336 (ca. 1077). ${ }^{54}$ The main ruling pattern of Dumbarton Oaks MS 3-12C1—is identical to the Moscow manuscript of Gregory Nazianzen, Rus. Hist. Mus. Vlad. 146, which was probably written in Constantinople. ${ }^{55}$ This ruling pattern appears in Greek manuscripts rather rarely; according to Leroy, it was used in only seven of the three thousand manuscripts he studied. ${ }^{56}$

Dumbarton Oaks MS 3 has a combination of several types of gatherings, which is unusual for eleventh-century Greek manuscripts. Although quaternions prevail (twentynine of forty-nine quires), there are also six quinions, five ternions (among them three paper ternions), two binions (one paper binion), and one union. The only eleventhcentury manuscript with such a characteristic known to me is codex Berlin, Theol. Seminary no. 3807 of Constantinopolitan origin. ${ }^{57}$ Thus, Dumbarton Oaks MS 3 shares several codicological features with a group of manuscripts that ranks among the best specimens of Constantinopolitan book production of the second half of the eleventh century. Furthermore, codicological analysis of Dumbarton Oaks MS 3 supports the view of art historians about its Constantinopolitan origin. ${ }^{58}$

The Dumbarton Oaks psalter and New Testament were written with a small-sized pearl liturgical minuscule slightly leaning to the right (Pl. 3). This kind of liturgical minuscule resembles the classical Perlschrift of the end of the tenth to the beginning of the eleventh century. But, unlike the latter, the former is almost vertical and looks more static, displaying more uncial letters, reduced strokes, and less connected script. For instance, in place of the ligature epsilon-iota, which is common to Perlschrift ( $\xi$ ), the scribe wrote epsilon and iota separately using an uncial form of episilon, and rho usually is not

[^9]connected to the following alpha or omicron. Occasionally the scribe used an abbreviation $\kappa \alpha i ̀$ with a long flourish curving on the bottom margin (e.g., fol. 104r), which is distinctive to the liturgical minuscule of the second half of the eleventh century. The handwriting of the scribe is extremely even and highly controlled. Only after the first hundred folios did the script become more fluent, using more abbreviations (e.g., $\overparen{\tau}=$ tòv; $\overrightarrow{7}=\delta \grave{\varepsilon}$ ) and appearing to enlarge some letters (e.g., zeta, uncial kappa). The scribe often used a particular form of abbreviation of $\kappa \alpha i ̀\left(K_{4}\right)$-II system, $G$ according to Agati's classification. ${ }^{59}$

Dumbarton Oaks MS 3 is closely related in script to Moscow State Univ. Libr. cod. 2280 (A.D. 1072), written with the same kind of small-sized pearl liturgical minuscule. ${ }^{60}$

That Michael, the scribe of the Moscow codex, was an imperial notary indicates that this manuscript was written in a scriptorium that might have been located in the emperor's palace and connected with the imperial chancellery. ${ }^{61}$ Furthermore, it is very probable that Dumbarton Oaks MS 3 was produced in the same center.

In the fifteenth century, Dumbarton Oaks MS 3 was restored: the lost or obsolete pages at the end of the New Testament were replaced with paper folios (fols. 341-362), and the restorer added marginal commentaries written, passim, in pale pink ink. The paper folios form four gatherings: three ternions and one binion. The paper gatherings are not numbered, and they are ruled to system 2 (Irigoin's classification). ${ }^{62}$ The ruling pattern of Dumbarton Oaks MS 3 paper folios is U 34/1 (Leroy's formula, Fig. 9).

The date of the restoration of Dumbarton Oaks MS 3 can be established rather precisely. The paper folios have a watermark - "scissors" (Fig. 10) that are identical to watermark no. 3670 (A.D. 1458) in the Briquet catalogue. ${ }^{63}$ The scissors watermark indicates that the paper was produced in Italy. ${ }^{64}$ Briquet's statistical analysis shows that about 50 percent of paper with a particular watermark was used within an interval of plus or minus five years from the date provided for the watermark in the catalogue, and about 90 percent was used in an interval of plus or minus fifteen years. ${ }^{65}$ D. Harlfinger has argued for an interval of plus or minus four years from the date of the watermark, and E. Gamillscheg, A.-M. Talbot, and I. Ševčenko also favor a more narrow temporal interval, arguing that "stocks of paper were used soon after purchase ( $3-5$ years)." ${ }^{66}$ Thus, it

[^10]is probable that Dumbarton Oaks MS 3 was restored some time between 1454 and 1462 (and highly probably between 1443 and 1473).

Regrettably we do not have any direct evidence about where the restoration of the manuscript took place. Possibly it was restored in Thessaloniki-the major center of book production during the Renaissance. This center continued its activities after the fall of Constantinople. I make this assumption because the handwriting on the paper pages of Dumbarton Oaks MS 3 (Pl. 4) has a certain resemblance to the script of the fifteenthcentury restorer of a Moscow manuscript of Libanius—Rus. Hist. Mus. Vlad. 489. ${ }^{67}$ The Moscow codex was executed in the first quarter of the fourteenth century in Thessaloniki, in the circle of Demetrius Triklinius, and was restored almost certainly in the same scriptorium in the second quarter of the fifteenth century. ${ }^{68}$

## Codex 4: The Gospels according to Luke and John

This manuscript consists of 254 folios measuring 235-240 $\times 170 \mathrm{~mm}$. The quality of parchment is average. Occasionally traces of hair, defects, and even a hole (fol. 114) appear. The thickness of the white and yellowish parchment varies. The manuscript has been exposed to dampness: some folios are slightly warped and have spots of mildew. The text occupies an area measuring $160 \times 110 \mathrm{~mm}$. There are eighteen lines per page. The space between ruling lines is 9 to 10 mm . The manuscript was written by one scribe. The codex consists of thirty-two quires composed according to Gregory's rule. There are no quire signatures, but we cannot be sure that they were not there originally, because the lower margins of all the folios are damaged.

Description of the Quires

| Numbers | Folios | Description |
| :---: | :--- | :--- |
| 1 | $1 \mathbf{r}-8 \mathrm{v}$ | Quaternion |
| 2 | $9 \mathrm{r}-16 \mathrm{v}$ | Quaternion |
| 3 | $17 \mathrm{r}-24 \mathrm{v}$ | Quaternion |
| 4 | $25 \mathrm{r}-32 \mathrm{v}$ | Quaternion |
| 5 | $33 \mathrm{r}-40 \mathrm{v}$ | Quaternion |
| 6 | $41 \mathrm{r}-48 \mathrm{v}$ | Quaternion |
| 7 | $49 \mathrm{r}-52 \mathrm{v}$ | Binion |
| 8 | $53 \mathrm{r}-60 \mathrm{v}$ | Quaternion |
| 9 | $61 \mathrm{r}-68 \mathrm{v}$ | Quaternion |
| 10 | $69 \mathrm{r}-76 \mathrm{v}$ | Quaternion |
| 11 | $77 \mathrm{r}-84 \mathrm{v}$ | Quaternion |
| 12 | $85 \mathrm{r}-92 \mathrm{v}$ | Quaternion |
| 13 | $93 \mathrm{r}-100 \mathrm{v}$ | Quaternion |
| 14 | $101 \mathrm{r}-108 \mathrm{v}$ | Quaternion |

${ }^{67}$ N. F. Kavrus, "Moskovskaja rukopis' Libanija," VestDrIst 4 (1974), 125-31.
${ }^{68}$ B. L. Fonkich and F. B. Poliakov, Grecheskie rukopisi Sinodal'noj biblioteki (Moscow, 1993), 158.

| 15 | $109 \mathrm{r}-116 \mathrm{v}$ | Quaternion |
| :--- | :--- | :--- |
| 16 | $117 \mathrm{r}-124 \mathrm{v}$ | Quaternion |
| 17 | $125 \mathrm{r}-132 \mathrm{v}$ | Quaternion |
| 18 | $133 \mathrm{r}-140 \mathrm{v}$ | Quaternion |
| 19 | $141 \mathrm{r}-148 \mathrm{v}$ | Quaternion |
| 20 | $149 \mathrm{r}-157 \mathrm{v}$ | This was originally a <br> quaternion. Folio 150, <br>  |
|  |  | with a miniature, was <br> inserted between the first <br>  |
|  | $158 \mathrm{r}-165 \mathrm{v}$ | Qnd second folios of the |
| 21 | $166 \mathrm{r}-173 \mathrm{v}$ | Quire. |
| 22 | $174 \mathrm{r}-181 \mathrm{v}$ | Quaternion |
| 23 | $182 \mathrm{r}-189 \mathrm{v}$ | Quaternion |
| 24 | $190 \mathrm{r}-197 \mathrm{v}$ | Quaternion |
| 25 | $198 \mathrm{r}-205 \mathrm{v}$ | Quaternion |
| 26 | $206 \mathrm{r}-213 \mathrm{v}$ | Quaternion |
| 27 | $214 \mathrm{r}-221 \mathrm{v}$ | Quaternion |
| 28 | $222 \mathrm{r}-229 \mathrm{v}$ | Quaternion |
| 29 | $230 \mathrm{r}-237 \mathrm{v}$ | Quaternion |
| 30 | $238 \mathrm{r}-245 \mathrm{v}$ | Quaternion |
| 31 | $246 \mathrm{r}-254 \mathrm{v}$ | Quaternion |
| 32 | Quaternion |  |

All quires were ruled to system 1 with ruling pattern 20D1. The script is pendant from ruled lines. The ink is medium brown and light brown. The codicological data of Dumbarton Oaks MS 4 are displayed here in Table 3.

Table 3

| Size of the manuscript | $235-240 \times 170 \mathrm{~mm}$ |
| :--- | :--- |
| Ruling system (Leroy) | 1 |
| Ruling pattern (Leroy) | 20 D 1 |
| Lines per page | 18 |
| Area ruled for text | $160 \times 110 \mathrm{~mm}$ |
| Space between ruled lines <br> guiding the writing | $9-10 \mathrm{~mm}$ |
| Position of the script in <br> relation to ruled lines | pendant |

The codicological features of Dumbarton Oaks MS 4 are so common for Greek manuscripts that any conclusions about origin must depend heavily on the analysis of the script and the illuminations.

The Dumbarton Oaks Gospels were written in a bold, rounded, and almost upright
liturgical minuscule, which reminds a paleographer of the archaizing imitations of original eleventh-century liturgical script (Pls. 5 and 6). ${ }^{69}$ Archaizing codices were produced in the early Palaeologan period. They were written on parchment-many on parchment of the finest quality-rather than on paper, the less expensive material common at the time. It is sometimes difficult to differentiate a clear and bold liturgical minuscule of archaizing manuscripts from the original liturgical minuscule of the eleventh century or from the liturgical minuscule of the twelfth century. The illumination of archaizing codices is also a skillful imitation of ancient models.

Although archaizing script has been well scrutinized, ${ }^{70}$ there are no precise criteria or standards used to differentiate it from original liturgical minuscule; paleographers have to be guided mostly by their own experience and intuition. There are, however, certain details that reveal later hands: for example, the script may look too static, rigid, and somewhat artificial; there are more uncial letters in the script in comparison to the eleventh century; the uncial kappa has a rounded lower oblique stroke; the uncial lambda descends below the level of other letters; some letters-especially omicron and upsilon-are disproportionately enlarged under the influence of the thirteenth-century "Fettaugen-Mode" writing style; ${ }^{71}$ accents are connected with breathings; the iota subscript becomes regular, and so on. ${ }^{72}$

One can see many features of archaizing script in the handwriting of the scribe of the Dumbarton Oaks Gospels: a rigid, static, and somewhat artificial ductus; a large percentage of uncial letters (especially beta, epsilon, eta, and mu); a tall uncial tau; an enlarged upsilon; a particular form of uncial kappa with a curved lower stroke; an uncial lambda located below the level of other letters; and an enlarged circumflex. Some of these features appear occasionally in the manuscripts of the eleventh and twelfth centuries, but their combination and regularity enables me to attribute Dumbarton Oaks MS 4 to the second half of the thirteenth century, i.e., to the early Palaeologan period-not to the twelfth century, as the manuscript is dated in the Dumbarton Oaks collection dossier and in catalogues. ${ }^{73}$

The script of Dumbarton Oaks MS 4 is similar to the archaizing minuscule of the following codices: Vat. Reg. gr. 63 (A.d. 1259/60), especially the uncial kappas and lambdas and the enlarged upsilons; ${ }^{74}$ Sinait. gr. 228 and Vat. gr. 1158 (the second half of the thirteenth century, Constantinople); ${ }^{75}$ Vat. gr. 225; ${ }^{76}$ Ann Arbor, Univ. of Michigan

[^11]Libr. MS 34; ${ }^{77}$ Athens, Nat. Libr. cod. 2646;78 and Istanbul, Ecum. Patriarchate cod. 1. ${ }^{79}$ H. Buchthal and H. Belting attributed codices Sinait. gr. 228 and Vat. gr. 1158, together with thirteen other archaizing manuscripts, to a Constantinopolitan scriptorium and hypothesized that all of them were made for a member of the imperial family, Theodora Raulaina. ${ }^{80}$ The ruling pattern of Dumbarton Oaks MS 4-20D1—is identical to the ruling pattern of two manuscripts of Theodora's group: Athos, Dionysiou cod. 5 and Paris., suppl. gr. 260. Three manuscripts of this group have a two-column version of the same pattern-20D2: Athos, Iveron, 30m; Sinait. gr. 228; and Vat. gr. 1158.81 These observations, however, are not enough to assign the Dumbarton Oaks manuscript to the Theodora Raulaina group, which is codicologically, paleographically, and artistically homogeneous. This group consists of luxurious, meticulous, and richly illuminated manuscripts executed on parchment of the finest quality, and some were written entirely in gold ink. The Dumbarton Oaks manuscript is not a deluxe codex, though the commission obviously was a wealthy person who could afford a parchment manuscript written with large minuscules at the time when less expensive writing material—paper—had become common. The patron of Dumbarton Oaks MS 4 might have commissioned this less expensive and less elegant book of Gospels in one of the Constantinopolitan workshops, where scribes were familiar with the archaizing "fashion" of the time.

The illumination of Dumbarton Oaks MS 4 has not yet received a detailed analysis. Such analysis has to be done by art historians, but I would like to make some observations. As a rule, Greek manuscripts display an exquisite harmony and interplay among all details of their decoration. In the Dumbarton Oaks Gospels one can see an obvious discrepancy between two parts of the decor: first, the headpieces and initials and, second, the miniatures. The headpieces and initials were executed in carmine ink with simple ornament, probably by the scribe himself. Two miniatures in gold and colors seem to have been executed sometime later and very probably in a different atelier; there is evidence that the miniatures were not in the manuscript originally. The first miniature, portraying the evangelist Luke, was painted on folio 4 v . This folio obviously was not intended for painting, because the end of the table of contents ( $\pi i v \alpha \xi$ ) is on the folio's recto, and the folio was ruled for writing. Full-page miniatures were usually executed on separate non-ruled blank sheets of parchment. The second miniature, portraying the evangelist John, was painted on a separate sheet of parchment (fol. 150 v ). The portrait was inserted between the first and second folios of the quaternion facing the beginning of the Gospel. It is an unusual place for a miniature, because full-page miniatures, as a rule, were inserted before gatherings, not inside, and it was a scribe's responsibility to arrange gatherings so that the portrait, inserted before the gathering, would face the beginning of the text. Thus, I believe, the original decor of the manuscript consisted of carmine headpieces and initials. Two miniatures were executed later, sometime after the scribe completed his work, possibly at the end of the thirteenth century in a different atelier.

Most art historians attribute the miniatures of Dumbarton Oaks MS 4 to the end of the twelfth century and suggest a provincial origin for the manuscript (see note 72). Only

[^12]in a catalogue of the Metropolitan Museum of Art is the execution of the Dumbarton Oaks Gospels miniatures assigned to the end of the thirteenth century. ${ }^{82}$ My analysis of script concludes that the end of the thirteenth century and maybe even the beginning of the fourteenth is the probable date of the miniatures. At the present time we cannot ascribe Dumbarton Oaks MS 4 to a particular scriptorium. Constantinople, however, was the primary place where archaizing manuscripts of the thirteenth-fourteenth centuries were produced. Thus, I conclude that Dumbarton Oaks MS 4 was written with archaizing script in the second half of the thirteenth century, probably in Constantinople, and the miniatures were added to the manuscript sometime later in a different atelier.

## Codex Acc. No. 79.31: Fragment from a Lectionary

This fragment-two leaves-originates from the so-called Phanar lectionary, which is deposited in the library of the Phanar School in Istanbul. ${ }^{83}$ Folio 1v contains a full-page miniature portraying the evangelist Mark, erroneously attached to the beginning of the Matthew lections. On folio 2r there appear a $\Pi$-shaped headpiece with an ornament in gold and blue, an initial epsilon with a figure of the evangelist Matthew, and the beginning of the Matthew lections, which continue on folio 2 v . Since the fragment contains only one leaf with writing, it provides only limited codicological and paleographic data.

The size of folio 1 is $293 \times 225 \mathrm{~mm}$, and folio 2 is $296 \times 225 \mathrm{~mm}$. Both leaves were cut, so the original size was larger. The parchment is creamish white and well prepared, but not of the finest quality; on folio 2 one can see some traces of hair. The ruling pattern is Leroy 34 C 2 . The lowest horizontal line of folio 2 's ruling is cut, but it is clearly visible on the last folio of the actual manuscript reproduced by Ch. Diehl. ${ }^{84}$ The script is pendant from the ruled lines.

Fragment 79.31 was written in a medium-brown ink. The scribe was a professional calligrapher, who demonstrates a regular and controlled handwriting (Pls. 7 and 8). His script can be characterized as a late Perlschrift with some features of emerging liturgical minuscule. Like the latter, the script of the Dumbarton Oaks fragment is almost upright, the strokes of the letters are reduced, and some letters (e.g., theta and the uncial epsilon) are enlarged. But unlike developed liturgical minuscule-e.g., the script of Dumbarton Oaks MSS 1, 3, and related manuscripts-the script of Dumbarton Oaks 79.31 is more fluent, there are fewer uncial letters in the script, and there are more connections between letters; for example, the ligature epsilon-iota is common, and rho is usually connected with the following alpha or omicron. The scribe predominantly used the wideopen form of theta-the form rare in liturgical minuscule, but common in Perlschrift. The script of fragment 79.31 has a certain resemblance to the late Perlschrift of the eleventhcentury manuscripts decorated in stile blu and studied by L. Perria. ${ }^{85}$ Similar are the open form of theta; minuscule xi (Pl. 8, 2nd col., lines 5, 9, and 14); the small minuscule zeta (Pl. 7, 2nd col., line 7), which usually appears enlarged in the eleventh century; and the

[^13]enlarged omicron and upsilon (Pl. 8, passim), precursors of the future Fettaugen-Mode writing style. The ruling pattern of the Dumbarton Oaks fragment-34C2-is identical to the ruling pattern of a number of manuscripts decorated in stile blu.

The manuscripts in stile blu are decorated with elegant headpieces and initials. Different shadows of blue predominate in the palette. The azure color of the Dumbarton Oaks fragment's headpiece resembles that of manuscripts in stile blu, and the ornamental style is also similar. The ornament of the headpiece of the eleventh-century Vat. gr. $1615^{86}$ is identical to that of Matthew's arch in the Dumbarton Oaks fragment. ${ }^{87}$ The arch has some elements of kufic ornament (on the top of the arch, near the cross), which can be found in manuscripts in stile blu, including Vat. gr. 557. ${ }^{88}$

Not one manuscript in stile blu has a colophon, but from their style of script and decoration, manuscripts in stile blu have been attributed to the end of the tenth century and throughout the eleventh century. The exquisite quality of the manuscripts and elegant script and decoration led Perria to propose Constantinople as a probable place of their production.

The Phanar lectionary, from which the Dumbarton Oaks fragment 79.31 originates, has a colophon indicating that in March A.D. 1063 the lectionary was given to the Holy Trinity monastery of Chalki by Empress Catherine Comnene (Xene the Nun, after taking her monastic vows). ${ }^{89}$ Because the handwriting of the colophon is distinct from that of the lectionary, G. Vikan has suggested that the codex was written earlier than it was donated. But in colophons scribes often used script different from that of the text. ${ }^{90}$ Although the semi-uncial script in the copte style in the colophon of the Phanar lectionary looks different from the minuscule script of the text, the colophon still could have been written by the same hand. To be absolutely certain, one must compare the color of the ink of the original manuscript's colophon and text, which, unfortunately, was not possible on the black-and-white copy available to me. ${ }^{91}$

Paleographically, the year 1063 or one to two decades earlier seem equally plausible dates for the origin of the Catherine Comnene lectionary. This lectionary and its fragment, Dumbarton Oaks no. 79.31, were produced in one of the best Constantinopolitan scriptoria-very probably the same one where the manuscripts decorated in stile blu were produced. It is to be hoped that paleographers and art historians will combine their skills to learn much more about this remarkable scriptorium.

Glenmont, New York

[^14]Fig. 1


Ruling pattern K 44C2
$\mathrm{AB}=16 \mathrm{~mm}$
$\mathrm{ab}=21 \mathrm{~mm}$
$\mathrm{BC}=6 \mathrm{~mm}$
$\mathrm{bc}=10 \mathrm{~mm}$
$\mathrm{CD}=20 \mathrm{~mm}$
$\mathrm{cd}=74 \mathrm{~mm}$
$\mathrm{DE}=240 \mathrm{~mm}$
$\mathrm{de}=4.5 \mathrm{~mm}$
$\mathrm{EF}=23 \mathrm{~mm}$
$\mathrm{FG}=5 \mathrm{~mm}$
ef $=15 \mathrm{~mm}$
$\mathrm{GH}=16 \mathrm{~mm}$
$\mathrm{fg}=4.5 \mathrm{~mm}$
$\mathrm{gh}=76 \mathrm{~mm}$
hi $=12 \mathrm{~mm}$
$\mathrm{ij}=16 \mathrm{~mm}$
$\mathrm{jk}=4 \mathrm{~mm}$
$\mathrm{kl}=24 \mathrm{~mm}$

Fig. 2


Ruling Pattern 34C1 Cr2
$\mathrm{AB}=18 \mathrm{~mm} \quad \mathrm{ab}=23 \mathrm{~mm}$
$\mathrm{BC}=6-7 \mathrm{~mm} \quad \mathrm{bc}=9 \mathrm{~mm}$
$\mathrm{CD}=18 \mathrm{~mm} \quad \mathrm{~cd}=26 \mathrm{~mm}$
$\mathrm{DE}=82 \mathrm{~mm} \quad \mathrm{de}=8.5 \mathrm{~mm}$
$\mathrm{EF}=72 \mathrm{~mm} \quad$ ef $=110 \mathrm{~mm}$
FG $=82 \mathrm{~mm} \quad \mathrm{fg}=8.5 \mathrm{~mm}$
$\mathrm{GH}=22 \mathrm{~mm} \quad \mathrm{gh}=25 \mathrm{~mm}$
$\mathrm{HI}=5 \mathrm{~mm} \quad \mathrm{hi}=10 \mathrm{~mm}$
$\mathrm{IJ}=22 \mathrm{~mm} \quad \mathrm{ij}=20 \mathrm{~mm}$
$\mathrm{jk}=18 \mathrm{~mm}$

Fig. 3


Ruling pattern 34C2, adjusted to a cruciform text

Fig. 4


A unique ruling pattern

| $\mathrm{AB}=16 \mathrm{~mm}$ | $\mathrm{ab}=20 \mathrm{~mm}$ |
| :--- | :--- |
| $\mathrm{BC}=11 \mathrm{~mm}$ | $\mathrm{bc}=9 \mathrm{~mm}$ |
| $\mathrm{CD}=28 \mathrm{~mm}$ | $\mathrm{~cd}=80 \mathrm{~mm}$ |
| $\mathrm{DE}=231 \mathrm{~mm}$ | $\mathrm{de}=18.5 \mathrm{~mm}$ |
| $\mathrm{EF}=23 \mathrm{~mm}$ | $\mathrm{ef}=80 \mathrm{~mm}$ |
| $\mathrm{FG}=5 \mathrm{~mm}$ | $\mathrm{fg}=9 \mathrm{~mm}$ |
| $\mathrm{GH}=18 \mathrm{~mm}$ | gh $=20 \mathrm{~mm}$ |
|  | hi $=13.5 \mathrm{~mm}$ |

Fig. 5


Ruling pattern 12C1

$$
\begin{array}{ll}
\mathrm{AB}=5 \mathrm{~mm} & \mathrm{ab}=14 \mathrm{~mm} \\
\mathrm{BC}=7 \mathrm{~mm} & \mathrm{bc}=70 \mathrm{~mm} \\
\mathrm{CD}=120 \mathrm{~mm} & \mathrm{~cd}=10 \mathrm{~mm} \\
\mathrm{DE}=10 \mathrm{~mm} & \mathrm{de}=15 \mathrm{~mm} \\
\mathrm{EF}=20 \mathrm{~mm} &
\end{array}
$$

Fig. 6


Ruling pattern 12C2

$$
\begin{array}{ll}
\mathrm{AB}=5 \mathrm{~mm} & \mathrm{ab}=14 \mathrm{~mm} \\
\mathrm{BC}=7 \mathrm{~mm} & \mathrm{bc}=30 \mathrm{~mm} \\
\mathrm{CD}=120 \mathrm{~mm} & \mathrm{~cd}=10 \mathrm{~mm} \\
\mathrm{DE}=10 \mathrm{~mm} & \mathrm{de}=30 \mathrm{~mm} \\
\mathrm{EF}=20 \mathrm{~mm} & \text { ef }=10 \mathrm{~mm} \\
& \mathrm{fe}=15 \mathrm{~mm}
\end{array}
$$

Fig. 7


Ruling pattern 13C1d
$\mathrm{AB}=5 \mathrm{~mm}$
$\mathrm{ab}=14 \mathrm{~mm}$
$\mathrm{BC}=7 \mathrm{~mm}$
$\mathrm{bc}=70 \mathrm{~mm}$
$\mathrm{CD}=120 \mathrm{~mm}$
$\mathrm{cd}=10 \mathrm{~mm}$
$\mathrm{DE}=10 \mathrm{~mm}$
$\mathrm{de}=15 \mathrm{~mm}$
$\mathrm{EF}=3.5 \mathrm{~mm}$
$\mathrm{FG}=16.5 \mathrm{~mm}$

Fig. 8


| $\mathrm{AB}=5 \mathrm{~mm}$ | $\mathrm{ab}=12 \mathrm{~mm}$ |
| :--- | :--- |
| $\mathrm{BC}=7 \mathrm{~mm}$ | $\mathrm{bc}=2 \mathrm{~mm}$ |
| $\mathrm{CD}=120 \mathrm{~mm}$ | $\mathrm{~cd}=70 \mathrm{~mm}$ |
| $\mathrm{DE}=10 \mathrm{~mm}$ | $\mathrm{de}=2.5 \mathrm{~mm}$ |
| $\mathrm{EF}=20 \mathrm{~mm}$ | $\mathrm{ef}=7.5 \mathrm{~mm}$ |
|  | $\mathrm{fg}=15 \mathrm{~mm}$ |

Fig. 9


Ruling pattern U 34/1

$$
\begin{array}{ll}
\mathrm{AB}=26 \mathrm{~mm} & \mathrm{ab}=6 \mathrm{~mm} \\
\mathrm{BC}=5 \mathrm{~mm} & \mathrm{bc}=5 \mathrm{~mm} \\
\mathrm{CD}=120 \mathrm{~mm} & \mathrm{~cd}=75 \mathrm{~mm} \\
\mathrm{DE}=4 \mathrm{~mm} & \mathrm{de}=6 \mathrm{~mm} \\
\mathrm{EF}=27 \mathrm{~mm} & \mathrm{ef}=12 \mathrm{~mm} \\
& \mathrm{fg}=5 \mathrm{~mm}
\end{array}
$$

Fig. 10


Scissors-pattern watermark


[^0]:    I wish to thank the officials of Dumbarton Oaks for the opportunity to study Greek manuscripts and other scholarly materials at their institution in 1993. I also want to thank the staff of Dumbarton Oaks for their assistance. My special thanks to Henry Maguire, former director of Byzantine Studies, who read the draft manuscript, and to Susan Boyd, curator of the Byzantine collection.
    ${ }^{1}$ S. Der Nersessian, "A Psalter and a New Testament Manuscript at Dumbarton Oaks," DOP 19 (1965), 155-83; Illuminated Greek Manuscripts from American Collections: An Exhibition in Honor of Kurt Weitzmann, ed. G. Vikan (Princeton, N.J., 1973), nos. 20, 25, 39, and 42; A. Cutler, The Aristocratic Psalters in Byzantium (Paris, 1985), 91-98; J. C. Anderson, The New York Cruciform Lectionary (University Park, Penn., 1992), 81-88. These works contain important bibliographies about the manuscripts under investigation.
    ${ }^{2}$ In this article I do not analyze fragment no. 58.105 , because it does not provide codicological and paleographic data.

[^1]:    ${ }^{3}$ About this writing style, see H. Hunger, "Die sogenannte Fettaugen-Mode in griechischen Handschriften des 13. und 14. Jahrhunderts," ByzF 4 (1972), 105-13.

[^2]:    ${ }^{4}$ J. Leroy, "Quelques systèmes de réglure des manuscrits grecs," in Studia codicologica, ed. von Kurt Treu (Berlin, 1977), 291-312.
    ${ }^{5} \mathrm{~J}$. Leroy, Les types de réglure de manuscrits grecs (Paris, 1976).
    ${ }^{6}$ A description and classification of puncturing in Greek manuscripts have not yet been done, although such codicological detail might be helpful for establishing the date and origin of manuscripts. See, for example, the analysis of puncturing in Latin manuscripts in L. Webber Jones, "Pricking Manuscripts: The Instruments and Their Significance," Speculum 21 (1946), 389-403.

[^3]:    ${ }^{7}$ See, for example, the table of codicological data of the Moscow and St. Petersburg 11th-century Greek manuscripts produced in the imperial scriptorium: N. F. Kavrus, "Imperatorskij scriptorij v XI veke," VizVrem 49 (1988), 141.
    ${ }^{8}$ Ibid., 137-39.
    ${ }^{9}$ N. F. Kavrus, "Almaznoe pis'mo v grecheskikh rukopisjakh Moskvy i Leningrada," VizVrem 47 (1986), 203.
    ${ }^{10}$ J. Leroy, "Un copiste de ménologes métaphrastiques," RSBN 27 (1990), 101-31.
    "V. D. Likhacheva, Vizantijskaja miniatjura: Pamjatniki vizantijskoj miniatjury IV-XV vekov v sobranijakh Sorjetskogo Sojuza (Moscow, 1977), pls. 11-14; J. C. Anderson, "The Common (Studite) Origin of the Moscow Menologium and Jerusalem Gregory," Byzantion 57 (1987), 5-11; N. P. Ševčenko, Illustrated Manuscripts of the Metaphrastian Menologion (Chicago-London, 1990), 61-72; K. Weitzmann and G. Galavaris, The Monastery of S. Catherine at Mount Sinai: The Illuminated Greek Manuscripts, I (Princeton, N.J., 1990), 73-80.
    ${ }^{12}$ Leroy, Les types de réglure, appendix 2.
    ${ }^{13}$ About Perlschrift, see H. Hunger, Studien zur Griechischen Paläggraphie (Vienna, 1954), 22-32.

[^4]:    ${ }^{14}$ About this writing style, see J. Irigoin, "Une écriture du X ${ }^{\mathrm{e}}$ siècle: la minuscule bouletée," in La paléographie grecque et byzantine: Colloque international sur la paléographie grecque et byzantine (Paris, 1977), 191-99; M. L. Agati, La minuscola "bouletée," Littera antiqua 9 (Vatican City, 1992).
    ${ }^{15}$ M. L. Agati, "Maiuscola e minuscola: indicazioni per l'interpretazione di una minuscola greca del sec. X," Studi di filologia bizantina 4 (1988), 81-96, esp. 93.
    ${ }^{16}$ N. F. Kavrus, "A Byzantine Scriptorium of the Second Half of the Eleventh Century," BSCAbstr 19 (1993), 77-78. See specimens of the handwriting in Kavrus, "Imperatorskij scriptorij," pl. 11; S. M. Pelekanidis et al., Oi © $\ddagger \sigma \alpha$ vpoì tov̂ 'A $\gamma$ íov "Opovs (Athens, 1974-88), I, pls. 226-37; II, pls. 416-17. In this album, the codex Chilandari 105 is attributed to the 14th century. This date seems to be too late. In my opinion, the manuscript was written and illuminated in the second half of the 11th century.
    ${ }^{17}$ Kavrus, "Almaznoe pis'mo," 194-97, pls. 2-4, 5a, b, and 6a, b.
    ${ }^{18}$ P. Buberl, Die Miniatürenhandschriften der Nationalbibliothek in Athen (Vienna, 1917), pls. X-XIII; G. Galavaris, The Illustrations of the Prefaces in Byzantine Gospels, Byzantina Vindobonensia 11 (Vienna, 1979), figs. 12 and 13; A. Marava-Chatzinicolaou and C. Toufexi-Paschou, Catalogue of the Illuminated Byzantine Manuscripts of the National Library of Greece (Athens, 1978-85), I, pls. 228-30.
    ${ }^{19}$ Cutler, Aristocratic Psalters, pl. 21, figs. 111-15.
    ${ }^{20}$ O. S. Popova, "Grecheskoe Evangelie vtoroj poloviny XI veka: Miniatjury i ornament," ZbLikUmet 15 (1979), 31-49; Kavrus, "Imperatorskij scriptorij," pls. 9 and 12.
    ${ }^{21}$ K. Weitzmann, Byzantine Liturgical Psalters and Gospels (London, 1980), 358-74; Vikan, American Collections, no. 28; Cutler, Aristocratic Psalters, pl. 21, figs. 111-15.

[^5]:    ${ }^{22}$ Cutler, Aristocratic Psalters, pl. 35, figs. 226-29; I. Spatharakis, Corpus of Dated Illuminated Greek Manuscripts to the Year 1453, Byzantina Neerlandica 8 (Leiden, 1981), pl. 230.
    ${ }^{23}$ V. N. Lazarev, "Car'gradskaja licevaja Psaltir' XI v.," VizVrem 3 (1950), 211-17; idem, Storia della pittura bizantina (Turin, 1967), pls. 220-26; V. D. Likhacheva, Iskusstvo knigi. Konstantinopol, XI vek (Moscow, 1976), 42-48; eadem, Vizantijskaja miniatjura, 22-26; Kavrus, "Imperatorskij scriptorij", pls. 1-4.
    ${ }^{24}$ K. Weitzmann, Die byzantinische Buchmalerei des 9. und 10. Jahrhunderts (Berlin, 1935), 34; idem, Studies in Classical and Byzantine Manuscript Illumination (Chicago-London, 1971), 138-39; Agati, La minuscola "bouletée," 270-71; N. F. Kavrus, "Rukopis' Dioskorida biblioteki Pierpont Morgan M 652 (Nju-York). Kodikologicheskoe i paleograficheskoe opisanie," VizVrem 56 (1995), 185-90.
    ${ }^{25}$ Vikan, American Collections, no. 25.
    ${ }^{26}$ Anderson, Cruciform Lectionary, 81-88.

[^6]:    ${ }^{43}$ Anderson, Cruciform Lectionary, 75-89.
    ${ }^{44}$ A German paleographer, J. A. M. Sonderkamp, proposed a date sometime between 1260 and 1350 for Dumbarton Oaks MS 1 (see his letter of 17 May 1982 in the Dumbarton Oaks collection, MS 1 dossier). This date is too late and is not supported by paleographic evidence. The minuscule of the manuscript scribe does not have any feature of archaizing script, which will be discussed below in connection with Dumbarton Oaks MS 4.
    ${ }^{45}$ It is possible, as Anderson suggests, that the patron of Dumbarton Oaks MS 1 saw or heard of a cruciform lectionary after the scribe had already started the work and then commissioned a similar manuscript for himself. See Anderson, Cruciform Lectionary, 86.
    ${ }^{46}$ For a detailed description of the contents, see Der Nersessian, "Psalter" (as above, note 1), 156-64.

[^7]:    ${ }^{47}$ P. Canart and L. Perria, "Les écritures livresques des XI ${ }^{e}$ et XII ${ }^{e}$ siècles," Paleografia e codicologia greca: Atti del Il Colloquio internationale (Berlino-Wolfenbuttel, 17-21 Ottobre 1983), Biblioteca di scrittura e civilta 3 (Alexandria, 1991), 67-116, esp. 73.

[^8]:    ${ }^{48}$ Der Nersessian, "Psalter," 182-83.
    ${ }^{49}$ Cutler, Aristocratic Psalters, 91.
    ${ }^{50}$ Concerning the Moscow leaf from Dumbarton Oaks MS 3, see A. Cutler, "The Dumbarton Oaks Psalter and New Testament: The Iconography of the Moscow Leaf," DOP 37 (1983), 35-45.

[^9]:    ${ }^{51}$ Kavrus, "Imperatorskij scriptorij," $135-36$ and 141.
    ${ }^{52}$ The correlation of formats implies the same place of origin of manuscripts: J. Irigoin, "Pour une étude des centres de copie byzantins," Scriptorium 12 (1958), 208-27, esp. 212-13.
    ${ }^{53}$ Kavrus, "Imperatorskij scriptorij," $134-35$ and 141.
    ${ }^{54}$ G. Stuhlfauth, "A Greek Psalter with Byzantine Miniatures," ArtB 15 (1933), 311-26; Cutler, Aristocratic Psalters, 89-91.
    ${ }^{55}$ V. N. Lazarev, Istorija vizantijskoj zhivopisi, I (Moscow, 1976), 109; Kavrus, "Imperatorskij scriptorij", 139 and 141.
    ${ }^{56}$ Leroy, Les types de réglure, appendix 2.
    ${ }^{57}$ The Constantinopolitan origin of Berlin psalter 3807 was argued by K. Weitzmann, "The Psalter Vatopedi 761: Its Place in the Aristocratic Psalter Recension," Byzantine Liturgical Psalters (as above, note 21), 34.
    ${ }^{58}$ Der Nersessian, "Psalter," 164; Vikan, American Collections, 101-04.

[^10]:    
    ${ }^{60}$ For specimens of the script, see Likhacheva, Vizantijskaja miniatjura (as above, note 11), 18-21.
    ${ }^{61}$ We still do not have a satisfactory understanding of this important center of Byzantine book production: was it a single big medieval atelier with calligraphers and artists working under the emperor's patronage or many smaller workshops or even individual scribes and artists who worked on a contract basis and could execute the emperors' orders? I believe that one point of view does not exclude another, and we may assume that in Constantinople there were small workshops or individual artisans working side by side with a major center of book production, a generator of new calligraphic and artistic ideas and "fashions" of the time.
    ${ }^{62} \mathrm{~J}$. Irigoin, "Typologie et description codicologique des manuscrits de papier," in Paleografia e codicologia greca (as above, note 47), 275-303.
    ${ }^{63}$ Ch. M. Briquet, Les filigranes: Dictionnaire historique des marques du papier, III (Amsterdam, 1968), no. 3670.
    ${ }^{64}$ Ibid., 233.
    ${ }^{65}$ Irigoin elaborates Briquet's method by studying the "vergeures" and "pontuseaux" of Italian paper: J. Irigoin, "La datation par les filigranes du papier," in Codicologica, V: Les matériaux du livre manuscrit, ed. A. Gruys and J. P. Gumbert (Leiden, 1980), 9-36.
    ${ }^{66}$ D. Harlfinger, "Zur Datierung von Handschriften mit Hilfe von Wasserzeichen," Griechische Kodikologie und Textüberlieferung (Darmstadt, 1980), 144-69; ODB, s.v. "paper."

[^11]:    ${ }^{69}$ I thank cordially Dr. B. L. Fonkich, who drew my attention to archaizing script in connection with Dumbarton Oaks MS 4.
    ${ }^{70}$ H. Hunger, "Archaisierende Minuskel und Gebrauchsschrift zur Blütezeit der Fettaugen-Mode. Der Schreiber des Cod. Vindob. Theol. gr. 303," La paléographie grecque et byzantine (as above, note 14), 283-90; G. Prato, "Scritture librarie arcaizzanti della prima età dei Paleologi e loro modelli," Scrittura e civiltà 3 (1979), 151-93; idem, "I manoscritti greci dei secoli XIII e XIV: note paleografiche," in Paleografia e codicologia greca (as above, note 47), 131-49; H. Hunger and O. Kresten, "Archaisierende Minuskel und Hodegonstil im 14. Jahrhundert," JÖB 29 (1980), 187-236.
    ${ }^{71}$ See above, note 3.
    ${ }^{72}$ Prato, "Scritture," 154 ff .
    ${ }^{73}$ Vikan, American Collections, no. 42, with bibliography.
    ${ }^{74}$ A. Turyn, Codices graeci Vaticani saeculis XIII et XIV scripti annorumque notis instructi (Vatican City, 1964), pl. 19.
    ${ }^{75}$ H. Buchthal and H. Belting, Patronage in Thirteenth-Century Constantinople: An Atelier of Late Byzantine Book Illumination and Calligraphy (Washington, D.C., 1978), pls. 17 and 33; R. Nelson and J. Lowden, "The Palaeologina Group: Additional Manuscripts and New Questions," DOP 45 (1991), 59-68, pl. 10.
    ${ }^{76}$ Prato, "Manoscritti greci," table 3.

[^12]:    ${ }^{77}$ K. Clark, Eight American Praxapostoloi (Chicago, 1941), pl. 1.
    ${ }^{78}$ Nelson and Lowden, "Palaeologina Group," pls. 3 and 5.
    ${ }^{79}$ Ibid., pl. 8.
    ${ }^{80}$ Buchthal and Belting, Patronage, 6.
    ${ }^{81}$ Ibid., 105 ff .

[^13]:    ${ }^{82}$ K. Hoffmann, The Year 1200: A Centennial Exhibition at the Metropolitan Museum of Art, February 12 through May 10, 1970, I (New York, 1970), 299, no. 292.
    ${ }^{83}$ For a detailed history of the manuscript and its fragments, and for an analysis of the miniatures and the decoration of codex 79.31, see G. Vikan, Gifts from the Byzantine Court (Washington, D.C., 1980).
    ${ }^{84} \mathrm{Ch}$. Diehl, "Monuments byzantins inédits du onzième siècle," Art Studies 5 (1927), 3-9, and pl. 7.
    ${ }^{85}$ L. Perria, "Manoscritti miniati in 'stile blu' nei secoli X-XI," RSBN 24 (1987), 85-124, and tables I-VIII.

[^14]:    ${ }^{86}$ Ibid., table via.
    ${ }^{87}$ Vikan, Gifts, cover illustration.
    ${ }^{88}$ Perria, "Stile blu," table vıia.
    ${ }^{89}$ The story of Empress Catherine Comnene's life is described in detail in Vikan, Gifts, 3-5.
    ${ }^{90}$ See numerous colophons in Dated Greek Minuscule Manuscripts to the Year 1200, ed. K. Lake and S. Lake, 10 vols. (1934-39).
    ${ }^{91}$ Diehl, "Monuments byzantins inédits," pl. 7.

